NEW

Lynx 2100
series

**6/8-Inch Global
Compact Turning
Center**

Lynx 2100 series

Lynx 2100/M
Lynx 2100L/LM/LMS

ver. EN 160324 SU

NEW
Lynx 2100 series

The Lynx 2100 Series – the next generation of the Lynx Series, currently with more than 25000 sales worldwide – aims to deliver even greater customer satisfaction with its superior machining performance, reliability, and user convenience.

Contents

Superior Machining Performance

Equipped with a 15 kW (20.1 Hp) high-power motor and machine structure, and further enhanced spindle and axis ball screw stiffness, the Lynx 2100 Series offers excellent cutting capability up to a maximum turning diameter of Ø350 mm (Ø13.8 inch) and a maximum turning length of 550 mm (21.7 inch).

High Reliability

The Series' excellent reliability is based on the adoption of a wider support structure, more stable bed, low vibration/noise spindle, servo-driven turret, and a full slideway cover for preventing coolant leaks and chips from penetrating the machine.

Improved User Convenience

The CNC tailstock, new Easy Operation Package (EOP) and hot keys enable the user to operate peripheral devices quickly and conveniently. User convenience has been further enhanced with grease type lubrication and a lateral / rear side double-purpose chip conveyor.
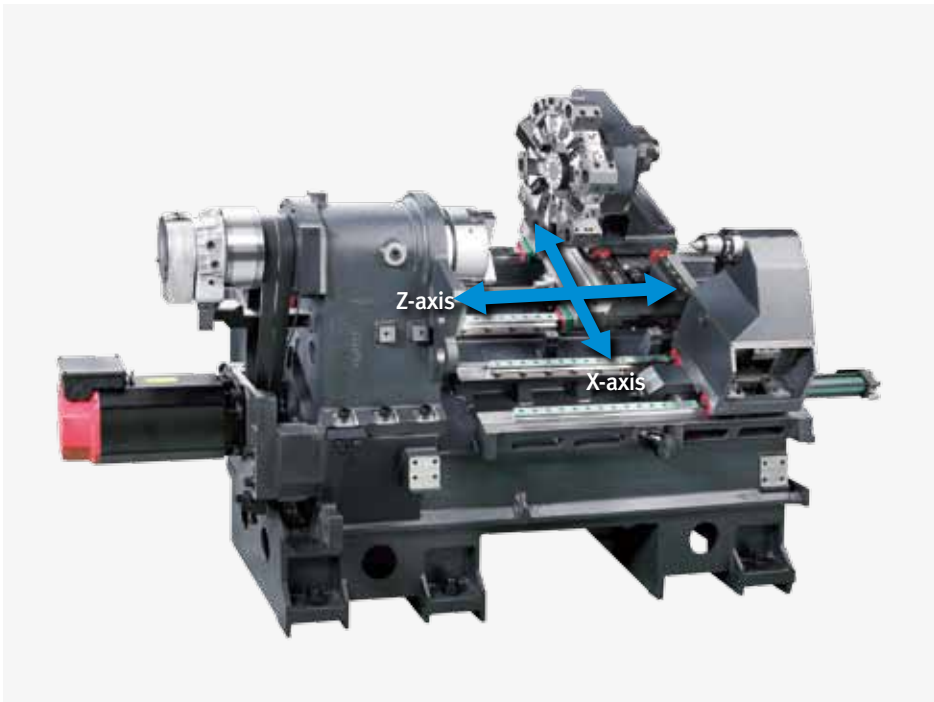
Basic Structure

The Lynx 2100 Series includes a wider support structure for X, Z axes and tailstock traverse. The X and Z axes are fitted with highly rigid roller-type LM Guideways .
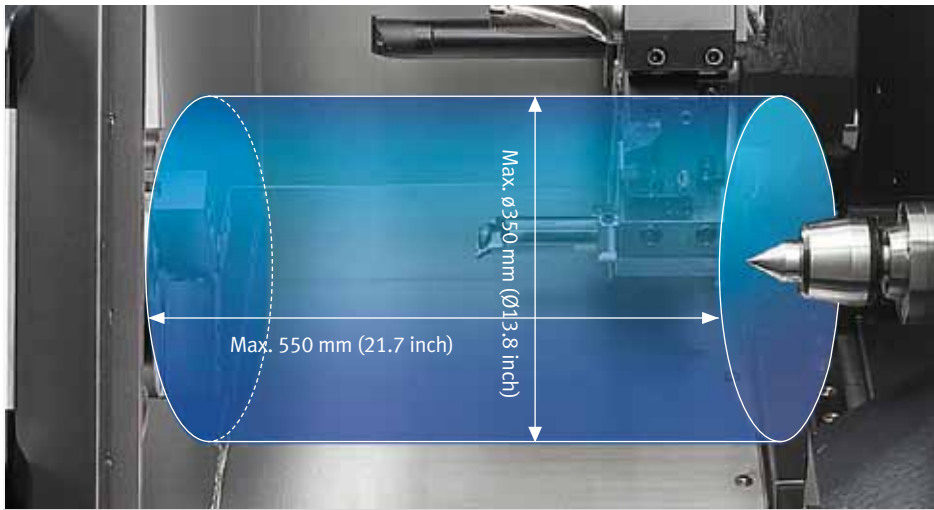

* M : 2-axis + Milling /
   MS : Milling + Sub spindle

Standard chuck size	Models	Travel mm (inch)		Rapid feedrate m/min		Fnuctions		
		X-axis	Z-axis	X-axis	Z-axis	2-axis	M	MS
6 inch	Lynx 2100A / MA	205 (8.1)	340 (13.4)	30 (1.2)	36 (1.4)	O	O	-
	Lynx 2100LA / LMA / LMSA		560 (22.0)			O	O	O
8 inch	Lynx 2100B / MB	205 (8.1)	340 (13.4)	30 (1.2)	36 (1.4)	O	O	-
	Lynx 2100LB / LMB / LMSB		560 (22.0)			O	O	O

Largest Machining Area

The Series also offers the largest machining area window in its class, with a max. turning diameter of Ø350 mm (Ø13.8 inch) and a max. turning length of 550 mm (21.7 inch).

Function	Models	unit	Max. turning dia.	Bar working dia. (6inch / 8inch)	Max. cutting length
2-axis	Lynx 2100A / B	mm (inch)	Ø350 (Ø13.8)	51 / 65 (2.0 / 2.6)	330 (13.0)
	Lynx 2100LA / LB	mm (inch)	Ø350 (Ø13.8)	51 / 65 (2.0 / 2.6)	550 (21.7)
M / MS type	Lynx 2100MA / MB	mm (inch)	Ø300 (Ø11.8)	51 / 65 (2.0 / 2.6)	290 (11.4)
	Lynx 2100LMA / LMB	mm (inch)	Ø300 (Ø11.8)	51 / 65 (2.0 / 2.6)	510 (20.1)
	Lynx 2100LMSA / LMSB	mm (inch)	Ø300 (Ø11.8)	51 / 65 (2.0 / 2.6)	510 (20.1)

Spindle

The high power / torque motor supports high-precision and heavy-duty cutting, improving productivity.

Max. Speed

6000 r/min (6 inch)

Max. Torque

169 N·m (8 inch)
(124.7 ft-lbs)

Standard chuck size	Models	Spindle speed r/min	Max.power (15min/cont.) kW (Hp)	Max torque N·m (ft-lbs)
6 inch	Lynx 2100A / LA / MA / LMA / LMSA	6000	15 / 11 (20.1 / 14.7)	127 (93.7)
8 inch	Lynx 2100B / LB / MB / LMB / LMSB	4500	15 / 11 (20.1 / 14.7)	169 (124.7)

Sub-spindle

The sub-spindle function enables rear-side cutting by a single setup, thereby maximizing the user's productivity and efficiency. Full C axis 0.001 degree control is included to optimize capability.

Max. Speed

6000 r/min

Max. Power

5.5 / 3.7 kw (7.4 / 5.0 Hp)

Models	Standard chuck size	Spindle speed r/min	Max.power (15min/cont.) kW	Max torque N·m (ft-lbs)
Lynx 2100LMSA / LMSB	5 inch	6000	5.5 / 3.7 (7.4 / 5.0)	47 (34.7)

Turret

Rotation of the turret is controlled by servo motor for rapid and accurate selection of tools. The M model is fitted with Doosan's unique BMT45P turret to provide superior performance for milling operations.

Turret for 2-axis Models_ Lynx 2100A / B / LA / LB

No. of Tool Positions

12station   **10**station _option_

BMT45P Turret for M/MS Models_ Lynx 2100 MA / MB / LMA / LMB / LMSA / LMSB

The BMT45 turret developed using Doosan's unique technology minimizes thermal error by using an air / oil cooling system. The direct turret clamping system improves accuracy and rigidity.

No. of Tool Positions
12 station

Indexing
24 position index

Tailstock

Adoption of the hydraulic actuation type CNC tailstock (hydraulic type) enables tailstock positioning and work setting using the operation panel. The dedicated screen reduces the work setting time by about 50%.

CNC Tailstock (Hydraulic Type)

Setting time by
50% ↓

Models	Tail stock travel mm (inch)	Std. / Opt.
Lynx 2100A / B / MA / MB	360 (14.2)	option
Lynx 2100LA / LB / LMA / LMB	580 (22.8)	Std.

The EOP (Easy Operation Package) System enables fast and easy tailstock position setting and control.

Work clamp

Tailstock moving

Auto memory of support point by a quick and simple operation (button)

Auto support or retreat using the M-code or buttons on the operation panel

Cutting Performance

Lynx 2100 series has powerful cutting performance.

O.D turning

	Unit	Lynx 2100LB
Cutting speed	m/min (ipm)	210 (8267.7)
Feed	mm/rev (ipr)	0.56
Spindle speed	r/min	844
Cutting depth	mm (inch)	4 (0.2)
Chip removal rate	cm³/min (inch³/min)	462 (28.2)

I.D turning (Rough / End)

	Unit	Lynx 2100LB
Cutting speed	m/min (ipm)	280 / 200 (11023.6 / 7874.0)
Feed	mm/rev (ipr)	0.3 / 0.1 (0.0 / 0.0)
Spindle speed	r/min	1182 / 863
Cutting depth	mm (inch)	3 / 0.4 (0.1 / 0.0)
Tool length	mm (inch)	4.0D / 4.0D (0.2D / 0.2D)

U-drilling

	Unit	Lynx 2100LB
Cutting speed	m/min (ipm)	200 (7874.0)
Feed	mm/rev (ipr)	0.12 (0.0)
Spindle speed	r/min	1011
U-drill dia.	mm (inch)	63 (2.5)
Cutting depth	mm (inch)	176 (6.9)
Chip removal rate	cm³/min (inch³/min)	378 (23.1)

Face milling

	Unit	Lynx 2100MA
Cutting speed	m/min (ipm)	188 (7401.6)
Feed	mm/min (ipm)	600 (23.6)
Spindle speed	r/min	1500
Cutting depth	mm (inch)	3 (0.1)
Chip removal rate	cm³/min (inch³/min)	57.6 (3.5)
Tool dia.	mm (inch)	50 (2.0)

End milling

	Unit	Lynx 2100MA
Cutting speed	m/min (ipm)	57 (2244.1)
Feed	mm/min (ipm)	300 (11.8)
Spindle speed	r/min	1500
Cutting depth	mm (inch)	30 (1.2)
Chip removal rate	cm³/min (inch³/min)	108 (6.6)
Tool dia.	mm (inch)	12 (0.5)

Tap

	Unit	Lynx 2100MA
Tap dia.	mm (inch)	10 (0.4)
Cutting speed	m/min (ipm)	60 (2.4)
Feed	mm/rev (ipr)	1.75 (0.1)
Spindle speed	r/min	1592

* The results, indicated in this catalogue are provides as example. They may not be obtained due to differences in cutting conditions and environmental conditions during measurement.

Standard / Optional Specifications

Various optional features are available for customer-specific work environments.

● Standard　○ Optional　X Not applicable

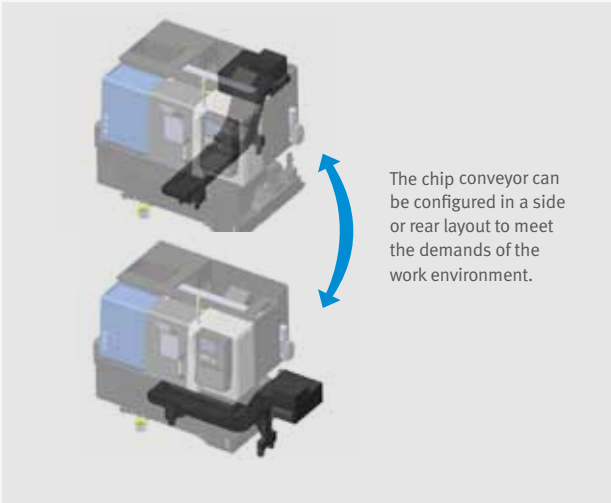| NO.	Description	Features	Lynx 2100 A/LA	Lynx 2100 B/LB	Lynx 2100 MA/LMA/LMSA	Lynx 2100 MB/LMB/LMSB
1	Chuck	6 inch	●	X	●	X
2		8 inch	○	●	○	●
3		10 inch	X	○	X	○
4		None	○	○	○	○
5	Jaw	Soft jaw	●	●	●	●
6		Hard jaw	○	○	○	○
7	Chucking option	DUAL PRESSURE CHUCKING	○	○	○	○
8		CHUCK CLAMP CONFIRMATION	●	●	●	●
9	Turret	Rotary tool_6000r/min	X	X	●	●
10		Rotary tool_10000r/min	X	X	○	○
11	Coolant pump	1.5 bar	●	●	●	●
12		4.5 bar	○	○	○	○
13		7 bar	○	○	○	○
14		10 bar	○	○	○	○
15		14.5 bar	○	○	○	○
16	Coolant pump (opt.)	4.5 bar	○	○	○	○
17	Coolant options	Oil Skimmer	○	○	○	○
18		Coolant chiller	○	○	○	○
19		Coolant pressure switch	○	○	○	○
20		Coolant level switch	●	●	●	●
21	Side chip conveyor	Hinged belt	○	○	○	○
22		Magnetic scrapper	○	○	○	○
23		Screw (auger)	○	○	○	○
24	Rear chip conveyor	Hinged belt	○	○	○	○
25		Magnetic scrapper	○	○	○	○
26		Screw (auger)	○	○	○	○
27	Chip bucket	Folklift 110L (for auger conveyor)	○	○	○	○
28		Folklift 200L (for auger conveyor)	○	○	○	○
29		Folklift 220L	○	○	○	○
30		Folklift 300L	○	○	○	○
31		Folklift 380L	○	○	○	○
32		Rotation 220L	○	○	○	○
33		Rotation 300L	○	○	○	○
34		Rotation 380L	○	○	○	○
35	Chip processing options	Air blower	○	○	○	○
36		Chuck coolant	○	○	○	○
37		Coolant gun	○	○	○	○
38		Mist collector ready	○	○	○	○
39		Assembled mist collector	○	○	○	○
40	Measurement & Automation	Bar feeder system	○	○	○	○
41		Auto door	○	○	○	○
42		Tool setter (Manual)	○	○	○	○
43		Tool setter (Auto)	○	○	○	○
44		Parts catcher and box	○	○	○	○
45		Parts catcher and conveyor	○	○	○	○
46	Standard devices	Front door interlock	●	●	●	●
47		Manual book	●	●	●	●
48		installation parts	●	●	●	●
49		safety sticker	●	●	●	●
50		Work light	●	●	●	●
51		Standard operation tools	●	●	●	●
52		Foot switch	●	●	●	●
53	Optional devices	Tool monitoring system	●	●	●	●
54		Signal tower	○	○	○	○
55		Air gun	○	○	○	○
56		Auto power off	○	○	○	○

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Peripheral Equipment

Chip Conveyor (option 21~26)

The chip conveyor can be configured in a side or rear layout to meet the demands of the work environment.

Chip conveyor type	Material	Description
Hinged belt	Steel	Most typical type of chip conveyor. Appropriate for steel materials generating chips of length of 30 mm or more.
Screw (auger)	Steel	Chip conveyor with smallest footprint. Demands 80% of footprint comparing to hinged belt.
Magnetic scrapper	Cast iron	Chip conveyor with magnet equipped: Appropriate for cast iron workpieces generating fine chips.

Quick change CAPTO option

The Quick Change Tool system simplifies tool change operation. Recommended for users who need to change tools frequently or reduce the set-up time.
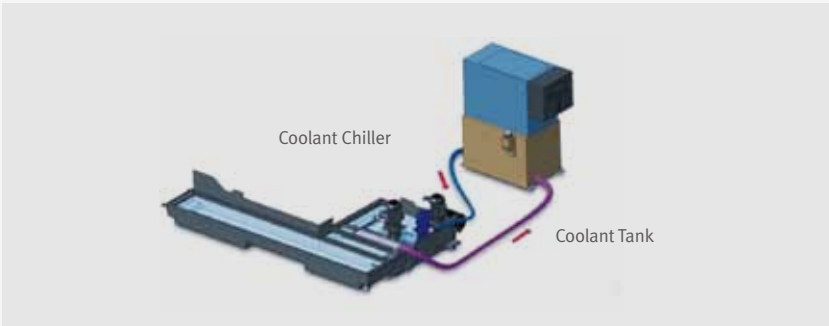
Grease Lubrication System

The standard grease lubrication system eliminates the need for an oil skimmer and reduces lubrication costs by about 80% compared to oil lubrication.

Yearly maintenance cost

Max. **80%** ↓

Coolant Chiller (option 18)

The detachable coolant chiller is recommended to maintain thermal error at a minimal level and achieve superior machining precision.

Coolant Chiller

Coolant Tank

Easy-to-clean Coolant Tank

The coolant tank can be isolated without removing the chip conveyor, significantly enhancing the operator's convenience.

Tool Setter (Manual /Auto) (Tool length measurement device) (option 42~43)

The tool setter facilitates the setting of machining tools, and can be used to automatically compensate for worn tools accurately.

Part Catcher (option 44~45)

The Part Catcher automatically catches finished parts and transfers them to the downstream processes.

Oil Skimmer (option 17)

As the Lynx 2100 Series uses a grease type lubricant, the coolant rarely mixes with oil. This optional oil skimmer helps keep exceptional service life of the coolant.

DOOSAN FANUC i

CNC optimized for DOOSAN's machine tools maximizes productivity.

User-Friendly Operation Panel

The newly-designed operation panel enhances operating convenience by incorporating common-design buttons and layout, and features the Qwerty keyboard for fast and easy operation.
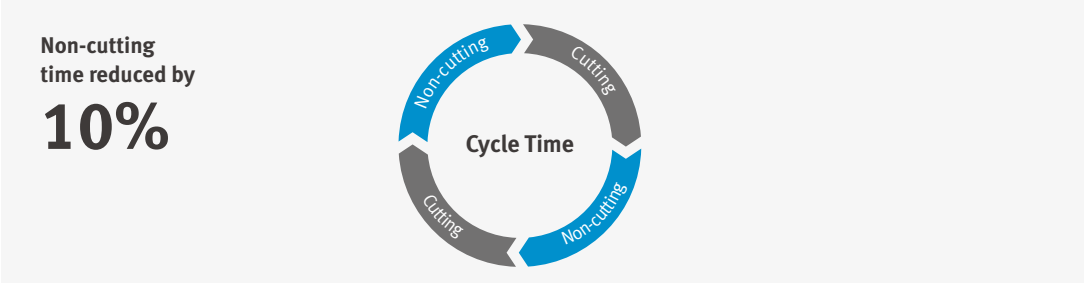
10.4-inch display
• **Vertical soft key**

• **USB & PCMCIA card (standard)**
• **QWERTY keyboard**
• **Ez-guide i (standard)**
• **Ergonomically designed operation panel for greater user convenience**
• **Hot key**

Improved Productivity

Cycle time, mechanism operating speed, acceleration and deceleration are optimized and non-cutting times during cutting operation are analyzed and minimized to enhance productivity.

Non-cutting time reduced by

10%

Cutting • Non-cutting • Cutting • Non-cutting

Cycle Time

EZ-Guide i

Using the DOOSAN EZ-Guide i, users can create a cutting program for any desired shape, including patterns, by entering the appropriate figures only.

Exemplary Programming

Exemplary cutting shape

EZ-Guide i Screen

Automatic creation of cutting program

O7000 (SAMPLE PROGRAM) ;
...
M3 S1500 ;
G0 X50. Y125. ;
G0 Z30. ;
G1040 T0.5 J3. H0.2 K0.5 ··· ;
G1020 H120. V50. U37. W68. ·· ;
G0 Z80. ;
M5 ;

Enter the dimensions of the desired shape.

A cutting program is automatically created with the entered values.

Easy Operation Package

Doosan Easy Operation Package (EOP) supports the user with tool, help desk, operation, functionalities to maximize operational efficiency and user convenience.

Custom1

Hot key

Select menu screen

Convenient set up for peripheral equipment

Helps tool setter guide, work setting, tailstock setting, and other measurement and parameter control to reduce setting-up time and facilitates operation.

Screen for monitoring the machine and operating conditions

The screen provides a complete view of machine operation. Information on the feed system position, offset, feedrate and spindle speed, tool life and count in an easy-to-view screen.

Management Convenience Screen

Helps to prepare tools and provides for visual information on alarms to reduce maintenance time.

SIEMENS 828D

SIEMENS CNC have been adopted and optimized for DOOSAN's machine tools to maximize users' productivity.

10.4 inch display

- **Qwerty keyboard**
- **USB / CF-card (std.)**
- **shop turn (std.)**

Conversational Convenient function

The machining monitoring function developed on the basis of the Shop Turn – an interactive machining support function of SIEMENS – provides users with cutting, servicing and maintenance screens for easy and convenient machine operation.

Cutting and operation support function

This function shows a cutting and tool path simulation of a cutting program on a real-time basis.

Tail stock function

Dialogic Sceen will help easy setting and operating about CNC Tail stock.

Shop-turn mode[various] → [attachments]

Operation safety function

Spindle and Turret's interference could be checked before crash. So that it Protect operator's mistake.

[offset] → [operating parameter] → [attachment setting] → [Collision avoidance]

Maintenance and service convenience function

Maintenance and service of major units and peripheral devices, timer setting and parts counter setting can be easily carried out on a convenient screen.

[offset] → [operating parameter] → [TC service]

Machining accuracy improvement

The NC controls spindle speed at an optimal level for precision threading and turning, making it possible to improve surface roughness automatically.

[various] → [attachment] → [DSSV]

Before applying the function

After applying the function

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Power-Torque Diagram (FANUC)

Main Spindle

Lynx 2100A / LA / MA / LMA / LMSA	Lynx 2100B / LB / MB / LMB / LMSB

Speed **6000** r/min Power **15 / 11** kW (20.1 / 14.8 Hp)

Speed **4500** r/min Power **15 / 11** kW (20.1 / 14.8 Hp)

Sub-Spindle

Lynx 2100LMSA / LMSB

Speed **6000** r/min Power **5.5 / 3.7** kW (7.4 / 5.0 Hp)

Rotary Tool

Lynx 2100M / LM / LMS	Lynx 2100M / LM / LMS option

Speed **6000** r/min Power **3.7 / 1.1** kW (5.0 / 1.5 Hp)

Speed **10000** r/min Power **3.7 / 1.1** kW (5.0 / 1.5 Hp)

Power-Torque Diagram (SIEMENS)

Main Spindle

Lynx 2100A / LA / MA / LMA / LMSA

Speed **6000 r/min**   Power **15.7 / 10.5 kW** (21.1 / 14.1 Hp)

Lynx 2100B / LB / MB / LMB / LMSB

Speed **4500 r/min**   Power **15.7 / 10.5 kW** (21.1 / 14.1 Hp)

Sub-Spindle

Lynx 2100LMSA / LMSB

Speed **6000 r/min**   Power **7 kW (9.4 Hp)**

Rotary Tool

Lynx 2100M / LM / LMS

Speed **6000 r/min**   Power **6.2 / 4.1 kW** (8.3 / 5.5 Hp)

Lynx 2100M / LM / LMS option

Speed **10000 r/min**   Power **6.2 / 4.1 kW** (8.3 / 5.5 Hp)

External Dimensions

Lynx 2100 series

Unit : mm (inch)

Top View

Front View

Models	A	B		C	D		E	F
		side hinged chip conveyor	side screw (auger) chip conveyor		rear hinged chip conveyor	rear screw (auger) chip conveyor		spindle center
Lynx 2100A / MA [B / MB]	2320 [2350] (91.3 [92.5])	953 (37.5)	759 (29.9)			583 (23.0)		1060 (41.7)
Lynx 2100LA / LMA [LB / LMB]	2540 [2570] (100.0 [101.2])	997 (39.3)	830 (32.7)	1595 (62.8)	770 (30.3)	616 (24.3)	1693 (66.7)	1070 (42.1)
Lynx 2100LMSA [LMSB]	2805 [2835] (110.4 [111.6])	997 (39.3)	830 (32.7)			616 (24.3)		1060 (41.7)

Tooling System

Lynx 2100A / B / LA / LB (10/12 station)

Boring Bar

Boring Bar Sleeves

ø10-H40 (ø0.4-H40)
ø12-H40 (ø0.5-H40)
ø16-H40 (ø0.6-H40)
ø20-H40 (ø0.8-H40)
ø25-H40 (ø1.0-H40)
ø32-H40 (ø1.3-H40)

Boring Bar
ø40 (ø1.6)

I.D Tool Holder
（H40）

Drill

Drill Sockets **option**

MT#1-H40
MT#2-H40
MT#3-H40

ø40 (ø1.6)

U-Drill

U-Drill Sleeves

ø20-H40 (ø0.8-H40)
ø25-H40 (ø1.0-H40)
ø32-H40 (ø1.3-H40)

U-Drill Cap

12st Turret

10st Turret

O.D Tool
Clamper

Extended
O.D Tool Holder

O.D Tool
□ 25

Face Tool
Holder

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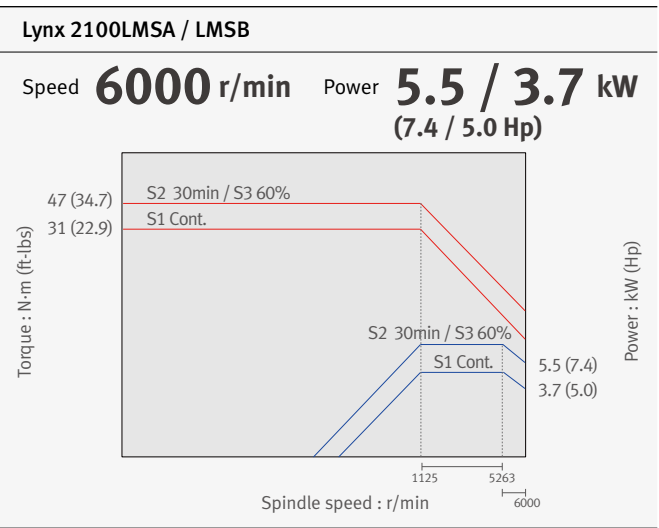**Detailed Information**

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Tooling System

Lynx 2100MA / MB / LMA / LMB (12 station(24 Position Index), BMT45P)

Unit : mm (inch)

Boring Bar

Boring Bar Sleeves
ø10 (ø0.4)   ø20 (ø0.8)
ø12 (ø0.5)   ø25 (ø1.0)
ø16 (ø0.6)

ø32 (ø1.3)

I.D Tool Holder
ø32 (ø1.3)

Drill

Drill Socket **option**
MT #1
MT #2
MT #3

U-Drill

U-Drill Sleeves
ø20 (ø0.8)
ø25 (ø1.0)

ø32 (ø1.3)

U-Drill Cap

O.D Tool

Face Tool Holder
□ 20

Cutting Tool
□ 20

Cut-Off Tool Holder
□ 20

24 station Turret
(BMT 45P)

Boring Bar

Boring Bar Sleeves II
ø8 (ø0.3)   ø12 (ø0.5)
ø10 (ø0.4)   ø16 (ø0.6)

ø20 (ø0.8)

Double I.D Tool Holder
ø20 (ø0.8)

Straight Milling Head

Angular Milling Head

Collet Adapter

Milling Arbor Adapter

Weldon Adapter

Milling Collet
ER20
Ø2~Ø13 (Ø0.1~Ø0.5)

O.D Tool Head
□ 20

Double O.D Tool Holder (F)
□ 20

O.D Tool

⌐ ⌐ ⌐ Standard

Tooling System

Lynx 2100LMSA / LMSB (12 station(24 Position Index), BMT45P)

Boring Bar

Boring Bar Sleeves
ø10 (ø0.4)   ø20 (ø0.8)
ø12 (ø0.5)   ø25 (ø1.0)
ø16 (ø0.6)

ø32 (ø1.3)

I.D Tool Holder
ø32 (ø1.3)

Drill

Drill Socket **option**
MT #1
MT #2
MT #3

U-Drill

U-Drill Sleeves
ø20 (ø0.8)
ø25 (ø1.0)

ø32 (ø1.3)

U-Drill Cap

O.D Tool

Face Tool Holder
□ 20

Boring Bar

Boring Bar Sleeves II
ø8 (ø0.3)   ø12 (ø0.5)
ø10 (ø0.4)   ø16 (ø0.6)

ø20 (ø0.8)

Double I.D
Tool Holder
ø20 (ø0.8)

Triple I.D
Tool Holder
ø20 (ø0.8)

U-Drill

ø20 (ø0.8)

U-Drill Cap
for sub spindle

Cutting Tool
□ 20

Cut-Off
Tool Holder
option
□ 20

24 station Turret
(BMT 45P)

Straight
Milling
Head

Angular
(offset)
Milling
Holder

Angular
Milling
Head

Collet
Adapter

Milling Arbor
Adapter

Weldon
Adapter

Milling Collet
ER20
Ø2~Ø13 (Ø0.1~Ø0.5)

O.D Tool Head
□ 20

Double O.D Tool
Holder (R+L)
□ 20

Double O.D Tool
Holder (F)
□ 20

Double O.D Tool
Holder (R)
□ 20

O.D Tool

⌐ ⌐ ⌐ Standard

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Tool Interference Diagram

Lynx 2100A / B / LA / LB

Unit : mm (inch)

12st

Ø506 (Ø19.9) (MAX. SWING DIA.)
Ø350 (Ø13.8) (MAX. TURNING DIA.)
Ø177 (Ø7.0)
49 (1.9)
45 (1.8)

175 (6.9) | 35 (1.4) | 190 (7.5) | 15 (0.6)
210 (8.3) | 205 (8.1) (X AXIS TRAVEL)
415 (16.3)

Unit : mm (inch)

10st

Ø485 (Ø19.1) (MAX. SWING DIA.)
Ø350 (Ø13.8) (MAX. TURNING DIA.)
61 (2.4)
56 (2.2)

175 (6.9) | 35 (1.4) | 190 (7.5) | 15 (0.6)
210 (8.3) | 205 (8.1) (X AXIS TRAVEL)
415 (16.3)

Tool Interference Diagram

Lynx 2100MA / MB / LMA / LMB

Unit : mm (inch)

Ø533 (Ø21.0) (MAX. SWING DIA.)
Ø300 (Ø11.8) (MAX. TURNING DIA.)

160 (6.3) | 60 (2.4) | 30 (2.1) | 150 (5.9) | 55 (2.2)
250 (9.8)
205 (8.1) (X AXIS TRAVEL)
455 (17.9)

Lynx 2100LMSA / LMSB

Unit : mm (inch)

Ø551 (Ø21.7) (MAX. SWING DIA.)
Ø300 (Ø11.8) (MAX. TURNING DIA.)

160 (6.3) | 60 (2.4) | 30 (2.1) | 150 (5.9) | 55 (2.2)
250 (9.8)
205 (8.1) (X AXIS TRAVEL)
455 (17.9)

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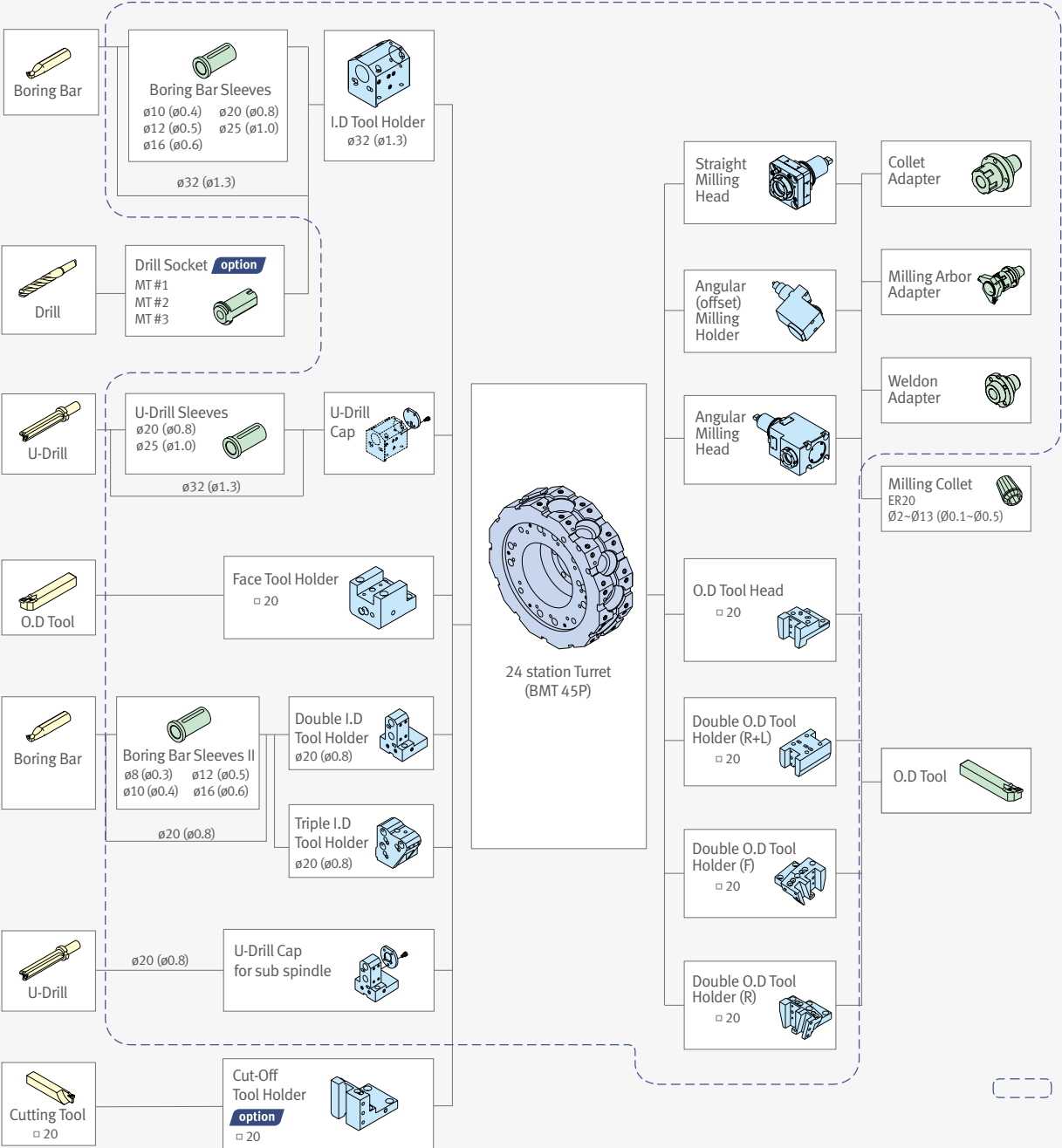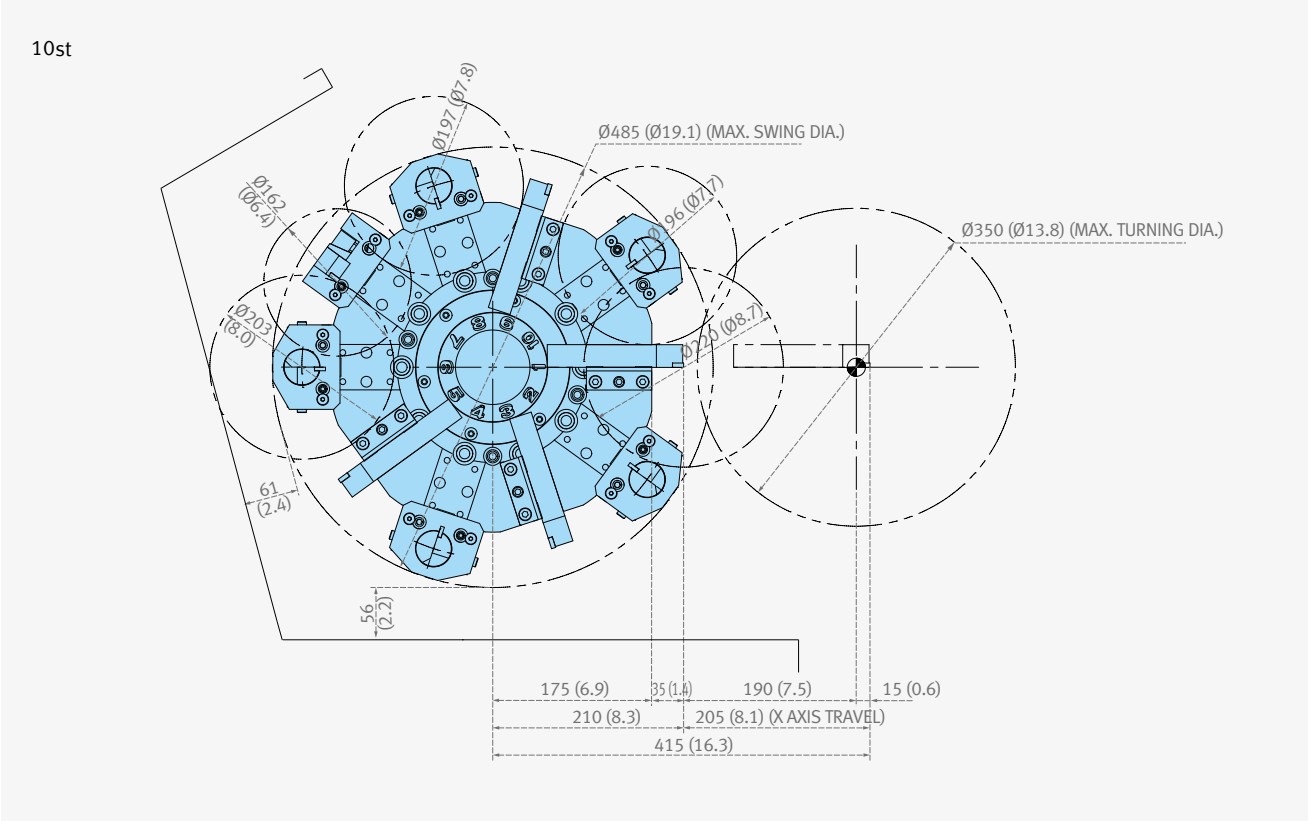Applications
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Lynx 2100
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Working Range

Lynx 2100A / B / LA / LB

Unit : mm (inch)

OD Holder

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)

205 (8.1)
(X-AXIS TRAVEL)
190 (7.5)

91 (3.6)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

ID HOLDER

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)

205 (8.1)
(X-AXIS TRAVEL)
190 (7.5)

89 (3.5)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

Face Tool Holder

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)

205 (8.1)
(X-AXIS TRAVEL)
68 (6.6)
159 (6.3)
50 (2.0)
128 (5.0)
178 (7.0)

7 (0.3) 124 (4.9)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

Extended OD Holder

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)

205 (8.1)
(X-AXIS TRAVEL)
147
(5.8)

91 (3.6)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

Working Range

Lynx 2100MA / MB / LMA / LMB

Unit : mm (inch)

OD Holder

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)
205 (8.1)
(X-AXIS TRAVEL)
150 (5.9)
131 (5.2)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

ID HOLDER

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)
205 (8.1)
(X-AXIS TRAVEL)
175 (6.9)
125 (4.9)
35 (1.4)   119 (4.7)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

Face Tool Holder

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)
205 (8.1)
(X-AXIS TRAVEL)
175
139 (5.5)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

Double OD Holder

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)
205 (8.1)
(X-AXIS TRAVEL)
145
134 (5.3)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

Straight Milling Holder

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)   40 (1.6)
205 (8.1)
(X-AXIS TRAVEL)
189 (7.4)
64 (2.5)
360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

Angular Milling Holder

340 [560] (13.4 [22.0])
(Z-AXIS TRAVEL)
205 (8.1)
(X-AXIS TRAVEL)
175 (6.9)
134 (5.3)
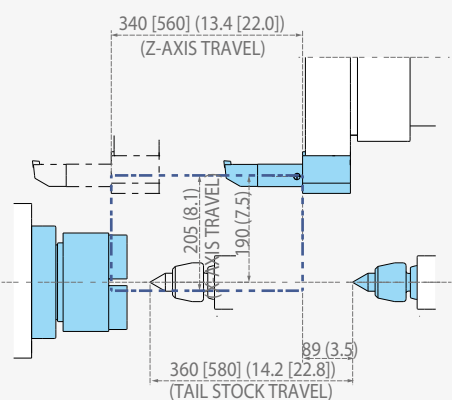360 [580] (14.2 [22.8])
(TAIL STOCK TRAVEL)

Working Range
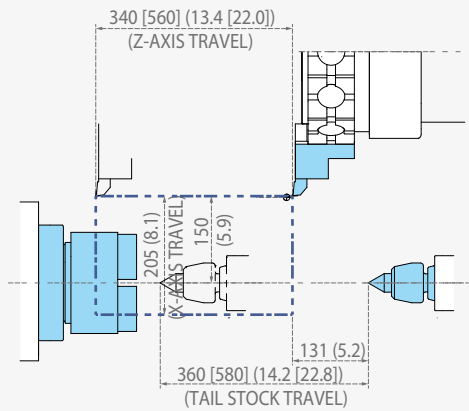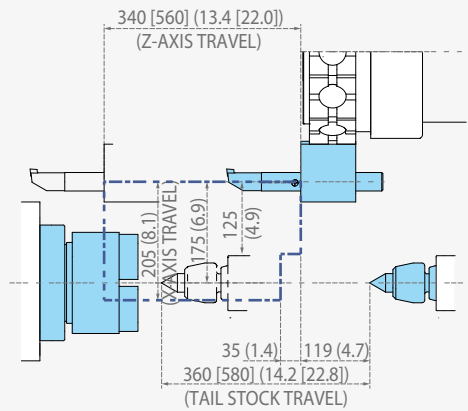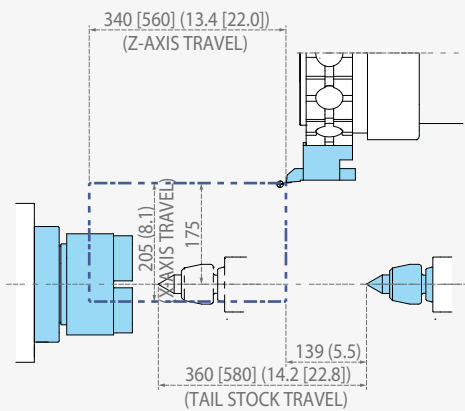
Lynx 2100MA / MB / LMA / LMB

Unit : mm (inch)

OD Holder

ID HOLDER

Face Tool Holder

Double OD Holder

Straight Milling Holder

Angular Milling Holder

Working Range

Lynx 2100LMSA/ LMSB

Unit : mm (inch)

OD Holder

560 (22.0)
(Z-AXIS TRAVEL)

205 (8.1)
(X-AXIS TRAVEL)
150 (5.9)

115 (4.5)
35 (1.4)

30 (2)

115 (4.5)   45 (1.8)

560 (22.0)
(SUB SPINDLE TRAVEL)

ID HOLDER

560 (22.0)
(Z-AXIS TRAVEL)

205 (8.1)
(X-AXIS TRAVEL)
175 (6.9)

19 68
(0.7)(2.7)

93
(3.7)

68   50   52
(2.7)   (2.0)(2.0)

560 (22.0)
(SUB SPINDLE TRAVEL)

Double OD Holder

560 (22.0)
(Z-AXIS TRAVEL)

205 (8.1)
(X-AXIS TRAVEL)
145

45   110
(1.8) (4.3)

25
(1.0)

117   48
(4.6)   (1.9)

560 (22.0)
(SUB SPINDLE TRAVEL)

Face Tool Holder

560 (22.0)
(Z-AXIS TRAVEL)

205 (8.1)
(X-AXIS TRAVEL)
175 (6.9)

105
(4.1)

70
(2.8)

110   60
(4.3)   (2.4)

560 (22.0)
(SUB SPINDLE TRAVEL)

Machine Specifications

Lynx 2100 series

Description		Unit	Lynx 2100A [LA]	Lynx 2100MA [LMA]	Lynx 2100LMSA	Lynx 2100B [LB]	Lynx 2100MB [LMB]	Lynx 2100LMSB
Capacity	Swing over bed	mm (inch)	600 (23.6)					
	Swing over saddle	mm (inch)	400 (15.7)					
	Recommended turning diameter	mm (inch)	170 (6.7)					
	Max. turning diameter	mm (inch)	350 (13.8)	300 (11.8)	300 (11.8)	350 (13.8)	300 (11.8)	300 (11.8)
	Max. turning length	mm (inch)	330 [550] (13.0 [21.7])	290 [510] (11.4 [20.1])	510 (20.1)	330 [550] (13.0 [21.7])	290 [510] (11.4 [20.1])	510 (20.1)
	Chuck size	inch	6 {8}			8{10}		
	Bar working diameter	mm (inch)	51 (2.0)			65 (2.6)		
Travel	Travel distance	X-axis	mm (inch)	205 (8.1)				
		Z-axis	mm (inch)	340 [560] (13.4 [22.0])				
Feedrate	Rapid traverse	X-axis	m/min (ipm)	30 (1181.1)				
		Z-axis	m/min (ipm)	36 (1417.3)				
Spindle	Spindle speed	r/min	6000			4500		
	Spindle moter power (15min / cont.) (FANUC)	kW (Hp)	15 / 11 (20.1 / 14.8)					
	Spindle motor power (S6 40%/ cont.) (SIEMENS)	kW (Hp)	15.7 / 10.5 (21.1 / 14.1)					
	Max. spindle torque (FANUC)	N·m (ft-lbs)	127 (93.7)			169 (124.6)		
	Max. spindle torque (SIEMENS)	N·m (ft-lbs)	125.7(92.8)			168(124.0)		
	Spdinel nose	ASA	A2-5			A2-6		
	Spindle bearing diameter	mm (inch)	90 (3.5)			110 (4.3)		
	Spindle inner diameter	mm (inch)	61 (2.4)			76 (3.0)		
	C-axis min.indexing angle	deg	-	0.001	0.001	-	0.001	0.001
Turret	No.of tool stations	ea	12 {10}	12	12	10 {12}	12	12
	OD tool size	mm (inch)	25 x 25 (1.0 x 1.0)	20 x 20 (0.8 x 0.8)	20 x 20 (0.8 x 0.8)	25 x 25 (1.0 x 1.0)	20 x 20 (0.8 x 0.8)	20 x 20 (0.8 x 0.8)
	Max.ID tool size	mm (inch)	40 (1.6)	32 (1.3)	32 (1.3)	40 (1.6)	32 (1.3)	32 (1.3)
	Turret indexing time	s	0.11 {0.15}	0.11	0.11	0.15 {0.11}	0.11	0.11
	Max.rotary tool speed	r/min	-	6000 {10000}	6000 {10000}	-	6000 {10000}	6000 {10000}
	Ratary tool motor power (FANUC)	kW (Hp)	-	3.7 (5.0)	3.7 (5.0)	-	3.7 (5.0)	3.7 (5.0)
	Rotary tool motor power (SIEMENS)	kW (Hp)	-	6.2 (8.3)	6.2 (8.3)	-	6.2 (8.3)	6.2 (8.3)
Tail stock	Travel distance	mm (inch)	360 [580] (14.1 [22.8])	360 [580] (14.1 [22.8])	-	360 [580] (14.1 [22.8])	360 [580] (14.1 [22.8])	-
	Quill diameter	mm (inch)	65 (2.6)	65 (2.6)	-	65 (2.6)	65 (2.6)	-
	Quill taper	MT	MT#4 (Live)	MT#4 (Live)	-	MT#4 (Live)	MT#4 (Live)	-
Sub spindle	Spindle speed		-	-	6000	-	-	6000
	Spindle moter power (15min / cont.) (FANUC)	kW (Hp)	-	-	5.5 / 3.7 (7.4 / 5.0)	-	-	5.5 / 3.7 (7.4 / 5.0)
	Spindle motor power (cont.) (SIEMENS)	kW (Hp)	-	-	7 (9.4)	-	-	7 (9.4)
	Max. spindle torque	N·m (ft-lbs)	-	-	47 (34.7)	-	-	47 (34.7)
	Spdinel nose		-	-	Flat ø110	-	-	Flat ø110
	Spindle bearing diameter	mm (inch)	-	-	75 (3.0)	-	-	75 (3.0)
	Spindle inner diameter	mm (inch)	-	-	43 (1.7)	-	-	43 (1.7)
	C-axis min.indexing angle		-	-	0.001	-	-	0.001
Power source	Power consumption	kVA	25.94	25.94	31.8	25.94	25.94	31.8
Machine dimensions	Length	mm (inch)	2320 [2540] (91.3 [100.0])	2320 [2540] (91.3 [100.0])	2805 (110.4)	2350 [2570] (92.5 [101.2])	2350 [2570] (92.5 [101.2])	2835 (111.6)
	Width	mm (inch)	1595 (62.8)					
	Height	mm (inch)	1693 (66.7)					
	Weight	kg (lb)	3100 [3400] (6834.2 [7495.6])	3170 [3480] (6988.6 [7672.0])	3600 (7936.5)	3100 [3400] (6834.2 [7495.6])	3170 [3480] (6988.6 [7672.0])	3600 (7936.5)
Control	NC system		DOOSAN-FANUC i / SIEMENS 828D					

*{ } : Option

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Lynx 2100
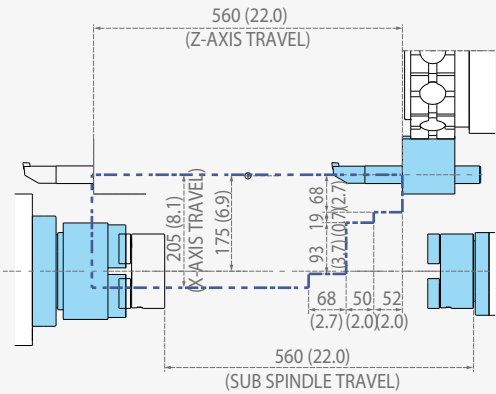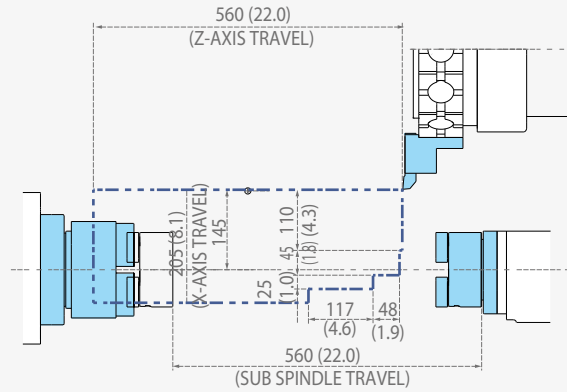series

CNC Specifications

DOOSAN FANUC i

● Standard ○ Optional X Not applicable

NO.	Division	Item	Spec.	DOOSAN-FANUC i		
				2-axis	M	MS
				A / B / LA / LB	MA / MB / LMA / LMB	MSA / MSB
1	Controlled axis	Controlled axes		X, Z	X, Z, C	X, Z, C, B
2		Simultaneously controlled axes		2 axes	3 axes	4 axes
3		Cs contouring control		X	●	●
4		Synchronous / Composite control		X	X	○
5		Torque control		●	●	●
6		HRV2 control		●	●	●
7		Inch / metric conversion		●	●	●
8		Stored stroke check 1		●	●	●
9		Stored stroke check 2,3		●	●	●
10		Stored limit check before move		●	●	●
11		Chamfering on / off		●	●	●
12		Unexpected disturbance torque detection function		●	●	●
13		Position switch		●	●	●
14	Operation	DNC operation	Included in RS232C interface.	●	●	●
15		DNC operation with memory card		●	●	●
16		Quick program restart		○	○	○
17		Tool retract and recover		○	○	○
18		Wrong operation prevention		●	●	●
19		Dry run		●	●	●
20		Single block		●	●	●
21		Reference position shift		●	●	●
22		Handle interruption		○	○	○
23		Incremental feed	x1,x10,x100	●	●	●
24		Manual handle retrace		○	○	○
25	Interpolation functions	Nano interpolation		●	●	●
26		Linear interpolation		●	●	●
27		Circular interpolation		●	●	●
28		Polar coordinate interpolation		X	●	●
29		Cylindrical interpolation		X	●	●
30		Helical interpolation		X	○	○
31		Thread cutting, synchronous cutting		●	●	●
32		Multi threading		●	●	●
33		Thread cutting retract		●	●	●
34		Continuous threading		●	●	●
35		Variable lead thread cutting		●	●	●
36		Polygon machining with two spindles		X	●	●
37		High-speed skip	Input signal is 8 points.	○	○	○
38		2nd reference position return	G30	●	●	●
39		3rd / 4th reference position return		●	●	●
40	Feed function	Override cancel		●	●	●
41		AI contour control I		○	○	○
42		AI contour control II		○	○	○
43		Rapid traverse block overlap		●	●	●
44	Program input	Optional block skip	9 pieces	●	●	●
45		Absolute / incremental programming	Combined use in the same block	●	●	●
46		Diameter / Radius programming		●	●	●

NO.	Division	Item	Spec.	DOOSAN-FANUC i		
				2-axis	M	MS
				A / B / LA / LB	MA / MB / LMA / LMB	MSA / MSB
47	Program input	Automatic coordinate system setting		●	●	●
48		Workpiece coordinate system	G52 - G59	●	●	●
49		Workpiece coordinate system preset		●	●	●
50		Direct drawing dimension programming		●	●	●
51		G code system	A	●	●	●
52		G code system	B/C	●	●	●
53		Chamfering / Corner R		●	●	●
54		Custom macro		●	●	●
55		Addition of custom macro common variables	#100 - #199, #500 - #999	●	●	●
56		Interruption type custom macro		●	●	●
57		Canned cycle		●	●	●
58		Multiple repetitive cycles	G70~G76	●	●	●
59		Multiple repetitive cycles II	Pocket profile	●	●	●
60		Canned cycle for drilling		●	●	●
61		Coordinate system shift		●	●	●
62		Direct input of coordinate system shift		●	●	●
63		Pattern data input		●	●	●
64	Operation Guidance Function	EZ Guidei(Conversational Programming Solution)		●	●	●
65		EZ Operation package		●	●	●
66	Auxiliary / Spindle speed function	Constant surface speed control		●	●	●
67		Spindle override	0 - 150%	●	●	●
68		Spindle orientation		●	●	●
69		Spindle synchronous control		x	x	●
70		Rigid tap		●	●	●
71		Arbitrary speed threading		○	○	○
72	Tool function / Tool compensation	Tool offset pairs	128-pairs	●	●	●
73		Tool offset pairs	200-pairs	○	○	○
74		Tool offset		●	●	●
75		Tool radius / Tool nose radius compensation		●	●	●
76		Tool geometry / wear compensation		●	●	●
77		Automatic tool offset	G36/G37	●	●	●
78		Direct input of offset value measured B		●	●	●
79		Tool life management		●	●	●
80	Accuracy compensation function	Backlash compensation for each rapid traverse and cutting feed		●	●	●
81		Stored pitch error compensation		○	○	○
82	Editing operation	Part program storage size & Number of registerable programs	5120M(2MB)_1000 programs	○	○	○
83		Part program storage size & Number of registerable programs	1280M(512KB)_400 programs	●	●	●
84		Part program storage size & Number of registerable programs	5120M(2MB)_400 programs	○	○	○
85		Program protect		●	●	●
86		Password function		●	●	●
87		Playback		●	●	●
88	Setting and display	Main menu screen		●	●	●
89	Data input / output	Fast data server		○	○	○
90		External data input		●	●	●
91		Memory card input / output		●	●	●
92		USB memory input / output		●	●	●
93		Automatic data backup		●	●	●
94	Interface function	Embedded Ethernet		●	●	●
95		Fast Ethernet		○	○	○
96	Others	Display unit	10.4" color LCD	●	●	●
97		Display unit	15" color LCD	○	○	○
98		Robot interface with PMC I/O module		○	○	○
99		Robot interface with PROFIBUS-DP		○	○	○

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CNC Specifications

SIEMENS S828D

● Standard ○ Optional X Not applicable

NO.	Division	Item	Spec.	S828D Lynx 2100 series
1	Control axes	Controlled axes R: Milling spindle	2 axis	X, Z, SP
			M-type	X, Z, C, R
			S-type	X, Z, C, C2, B
			MS-type	X, Z, C, R, C2, B
2		Simultaneously controlled axes	Positioning (G00) / Linear interpolation (G01) : 3 axes Circular interpolation(G02, G03) : 2 axes	●
3		Backlash compensation		●
4		Leadscrew error compensation		●
5		Measuring system error compensation		●
6		Feedforward control	velocity-dependent	●
7		Follow up mode		●
8		Programmable acceleration		●
9		Emergency stop / overtravel		●
10		Least command increment	0.001mm (0.0001 inch)	●
11		Least input increment	0.001mm (0.0001 inch)	●
12		Maximum commandable value	±99999.999mm (±3937 inch)	●
13		Machine lock		●
14		Absolute encoder		●
15	Interpolation & Feed function	Reference point return	G75 FP=1	●
16		2nd reference point return	G75 FP=2	●
17		3rd / 4th reference return	G75 FP=3, 4	●
18		Linear interpolation	Max. 4	●
19		Circular interpolation	G02, G03	●
20		Inverse time feedrate	G93	●
21		Helical interpolation		●
22		Universal interpolator NURBS		●
23		Spline interpolation (A, B and C splines)		○
24		Dwell	G04	●
25		Feedrate / Rapid override	0 - 120 %	●
26		Separate path feed for corners and chamfers		●
27		Manual handle feed (1unit)	Portable manual pulse generator	●
28		Reposition		●
29		Acceleration with Jerklimitation		●
30	Spindle function	Spindle speed override	50 - 120 %	●
31		Spindle speed limitation		●
32		Retraction for rigid tapping		●
33		Rigid tapping		●
34	Tool function	**Tool radius compensations in plane**		
35		• With approach and retract strategies		●
36		• With transition circle / ellipse on outer edges		●
37		Number of tools / cutting edges in tool list		256 / 512
38		Tool length compensation		●
39		Operation with tool management		●
40		Tool list		●
41		Replacement tools for tool management		○
42		Monitoring of tool life and workpiece count		●
43		Manual measurement of tool offset		●
44		Loading and unloading of tools		●
45	Programming & Editing function	Number of subroutine passes <= 9999		●
46		Number of levels for skip blocks 1		●
47		Number of levels for skip blocks 8		○
48		Polar coordinates		●
49		1 / 2 / 3-point contours		●
50		Dimensions metric / inch, changeover manually or via program		●
51		**Program functions**		
52		• Dynamic preprocessing memory FIFO		●
53		• Look ahead number of blocks		1
54		• Frame concept		●
55		• Inclined-surface machining with swivel cycle		●
56		• Axis / spindle replacement		●

NO.	Division	Item	Spec.	S828D Lynx 2100 series
57		• Geometry axes, switchable online in the CNC program		●
58		• Program preprocessing		●
59		Online ISO dialect interpreter		●
60		**Program / workpiece management**		
61		• Parts programs on NCU, max. number		300
62		• Workpieces on NCU, max. number		100
63		• On additional plug-in CF card		●
64		• On USB storage medium (e.g. disk drive, USB stick)		●
65		• On network drive		○
66		Settable offsets, max. number	G54, G55, G56 ...	100
67		**Program editor**		
68		• Programming support for cycles program(Program Guide)		●
69		• CNC editor with editing functions: Marking, copying, deleting		●
70		• Programming graphics / free contour input (contour calculator)		●
71		• Support for parameter input Animated Elements		●
72		• ShopTurn / ShopMill Machining step programming		●
73		Technology cycles for drilling/milling		●
74		Pocket milling free contour and islands stock removal cycle		●
75		Residual material detection		●
76		Access protection for cycles		●
77		Programming support can be extended, e.g. customer cycles		●
78		2D simulation		●
79		3D simulation, finished part		●
80		Simultaneous recording		●
81		**JOG**		
82		• Handwheel selection		●
83		• Switchover: inch / metric		●
84		• Manual measurement of zero / work offset		●
85		• Manual measurement of tool offset		●
86		• Automatic tool/workpiece measurement		●
87		• Reference point approach, automatic / via CNC program		●
88		**Automatic**		
89		• Execution from USB or CF card interface on operator panel front		●
90		• Execution from HMI memory on NCU CF card		-
91		• Execution from network drive		○
92		**Operating software languages**		
93		• Ch_S,Ch_T, En, Fr, Gr, It, Kr, Pt, Sp		●
94		• Additional languages, use of language extensions		●
95		Working area limitation		●
96		Limit switch monitoring		●
97	Operation, setting & Display, etc	Software and hardware limit switches		●
98		Position monitoring		●
99		Standstill (zero-speed) monitoring		●
100		Clamping monitoring		●
101		2D / 3D protection zones		●
102		Contour monitoring		●
103		Axis limitation from the PLC		●
104		Alarms and messages		●
105		Action log can be activated for diagnostic purposes		●
106		PLC status		●
107		**Remote Control System (RCS) remote diagnostics**		
108		• RCS Host remote diagnostics function		○
109		• RCS Commander (viewer function)	RCS Commander for PC/PG on CD-ROM	●
110		Integrated service planner for the monitoring of service intervals		●
111		Automatic measuring cycles		○
112		Easy Extend		●
113		Contour handwheel		●
114		Integrate screens in SINUMERIK Operate with SINUMERIK Integrate Run MyScreens		●
115		Cross-mode actions (ASUPs and synchronized actions in all operating modes)		●

Responding to Customers Anytime, Anywhere

AMERICA   EUROPE

Global Service Support Network

Corporations	Dealer Networks	Technical Centers	Factories
4	**122**	**18**	**3**

Technical Center: Sales Support, Service Support, Parts Support

Doosan Machine Tools' Global Network, Responding to Customer's Needs nearby, Anytime, Anywhere
Doosan machine tools provides a system-based professional support service before
and after the machine tool sale by responding quickly and efficiently to customers' demands.
By supplying spare parts, product training, field service and technical support, we can provide top class
support to our customers around the world.

CHINA (Shanghai)

CHINA (Yantai)

DOOSAN

Head Office

Changwon Factory

DOOSAN

DOOSAN

INDIA

Customer
Support Service

We help customers to achieve
success by providing a variety of
professional services from pre-sales
consultancy to post-sales support.

Supplying
Parts

- Supplying a wide range of original
  Doosan spare parts
- Parts repair service

Field
Services

- On site service
- Machine installation and testing
- Scheduled preventive maintenance
- Machine repair

Technical
Support

- Supports machining methods
  and technology
- Responds to technical queries
- Provides technical consultancy

Training

- Programming / machine setup and
  operation
- Electrical and mechanical
  maintenance
- Applications engineering

Domestic Service Support Network

Integrated Support Centers	Sales Branch Offices	Post-Sales Service Centers	Designated Repair Service Centers
2	**7**	**6**	**31**

Major Specifications

Lynx 2100 series

Description	Unit	Lynx 2100 [L]	Lynx 2100M [LM] [LMS]
Max. turning dia.	mm (inch)	Ø350 (Ø13.8)	Ø300 (Ø11.8)
Max. turning length	mm (inch)	330 [550] (13.0 [21.7])	290 [510] [510] (11.4 [20.1] [20.1])
Standard chuck size	inch	6 / 8	
Max. spindle speed	r/min	6000 / 4500	
Max. spindle power	kW (Hp)	15 (20.1)	
NC system	-	DOOSAN FANUC i / SIEMENS 828D	

Doosan Machine Tools

http://www.doosanmachinetools.com
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Optimal Solutions for the Future

* For more details, please contact Doosan Machine Tools.
* The specifications and information above-mentioned may be changed without prior notice.